

Claims:

1. A resistance-heated boat for use in vacuum deposition of a metal evaporant to a substrate in a resistance heating manner, comprising:
5 a graphite block to be formed into a boat; and
a protective barrier formed at a surface of the graphite for preventing the graphite layer from reacting with the metal evaporant,
wherein the protective barrier includes an aluminum- rich compound layer and a nitrogen containing compound layer.
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2. The boat as set forth in claim 1, wherein the protective barrier further includes a boron containing compound layer, which is distributed in the form of lump- shaped crystalline deposits.
- 15 3. The boat as set forth in claim 1 or 2, wherein the protective barrier has a thickness in a range of 20 to 200 micrometers.
4. A method of manufacturing a resistance-heated boat for use in vacuum vapor deposition of a metal evaporant to a substrate in a resistance heating manner,
20 comprising the steps of;
a) forming a graphite block into the form of a boat having an evaporation cavity formed at a surface thereof for positioning the metal evaporant such as aluminum;
b) coating the surface of the graphite layer with a nitrogen containing
25 compound;
c) producing a protective barrier at the surface of the graphite surface by positioning the aluminum inside the evaporation cavity formed at the center of the graphite boat, and causing a reaction between the aluminum and the nitrogen containing compound through a heat treatment process, the protective barrier
30 serving to prevent the graphite surface from reacting with the metal evaporant.
5. The method as set forth in claim 4, wherein the step b) includes the steps of:
b-1) adding catalysts to the nitrogen containing compound, the catalysts

serving to increase a rate of the reaction between the aluminum and the nitrogen containing compound; and

b-2) coating the nitrogen containing compound added with the catalysts.

5 6. The method as set forth in claim 4 or 5, wherein, in the step b), the nitrogen containing compound is a boron nitride.

10 7. The method as set forth in claim 5, wherein the catalysts include at least one selected from among a group consisting of aluminum oxide, titanium, vanadium, iron, and silicone.

8. The method as set forth in claim 4 or 5, wherein, in the step b), a resultant coating layer has a thickness in a range of 0.005 g/dm^2 to 0.4 g/dm^2 .

15 9. The method as set forth in claim 4 or 5, wherein, the step b) is performed in a spraying manner.

20 10. The method as set forth in claim 4 or 5, wherein the step b) is performed in a painting manner.